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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/076,964	02/15/2002	Herbert F. Cattell	10010327-1	1474

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AGILENT TECHNOLOGIES, INC.
Legal Department, DL429
Intellectual Property Administration
P.O. Box 7599
Loveland, CO 80537-0599

EXAMINER

BASOM, BLAINE T

ART UNIT	PAPER NUMBER
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2173

DATE MAILED: 10/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/076,964	CATTELL ET AL.	
	Examiner	Art Unit	
	Blaine Basom	2173	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 June 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION***Response to Arguments***

The Examiner acknowledges the Applicants' amendments to claims 15 and 19, the Applicants' addition of new claims 27-37, and the Applicants' cancellation of claims 1-14. Regarding the pending claims, the Applicants' subsequently argue that ImaGene, as described in the previous Office Action, fails to teach each of the features recited in each of the claims. In response, the Examiner presents the "ScanAlyze" and "Dapple" applications, which as shown below, teach each of the claimed features. The Applicants' arguments have thus been considered but are moot in view of the following new grounds of rejection, necessitated by Applicants' amendments.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 15, 18, 24-33, and 37 are rejected under 35 U.S.C. 102(b) as being anticipated by the "ScanAlyze" program, as is described by the "ScanAlyze User Manual." In general, ScanAlyze is a program for the analysis of DNA microarrays (see page 4).

Specifically regarding claims 15 and 27, ScanAlyze involves displaying an image of a molecular array, and superimposing distinct graphical objects representing at least

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two different characteristics of the data on the molecular array over positions where the data characteristics represented occur (for example, see page 19, and page 25).

Accordingly, ScanAlyze is considered to teach a method like that of claim 15. By the same reasoning, the graphical user interface of the ScanAlyze program is considered a graphical user interface like that recited in claim 27.

Regarding claims 18, 28-33 and 37, the characteristics in which the distinct graphical objects are superimposed are selected by the user (see page 19), and are related to the validity of the background, the validity of the feature, and the location of the feature (see page 25). Such graphical objects thus may be used to indicate: a statistically valid feature; a statistically invalid feature; a statistically valid feature background; a statistically invalid feature background; an outlier feature due to non-uniformity of pixel intensities within the feature, due to statistical variance in signal intensity from other features, or due to both non-uniformity of pixel intensities and statistical variance in signal intensities; and outlier feature background due to non-uniformity of pixel intensity with the background, due to statistical variation of the background region from the background regions surrounding other features of the array, or due to both non-uniformity of pixel intensities and statistical variance of the background region; or a position of a center of a feature found by analyzing pixel intensities within and near the feature or by row and column indices and a refined feature grid determined from locations of strong features identified. As it is to the user's discretion regarding the use of these distinct graphical objects, it is understood that they may optionally be superimposed only over statistical outlier features and feature backgrounds.

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As per claims 24-26, ScanAlyze teaches reading a sample exposed array, and visually displaying results using the method described above. It is understood that the user may further process the results, for example, by adjusting parameter values (as done in page 19, for example). As such results are maintained on a computer, presumably via a file, it is understood that such results may be forwarded to a remote location, as is well-known in the art.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 16-17 and 34-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over the ScanAlyze application, as is described above, and also over U.S. Patent No. 6,437,800, which is attributed to Malamud et al. (and hereafter referred to as "Malamud"). As described above, ScanAlyze teaches a method like that recited in each of claims 15 and 27, whereby a molecular array image is displayed concurrently with feature extraction results associated therewith. It is understood that a user may position a pointer over the position of a feature, to flag a feature for example (for example, see page 18). Regarding the claimed invention, however, ScanAlyze does not explicitly disclose that a tooltip is implemented to display alphanumeric information, as is expressed in each of claims 16-17 and 34-35. Nevertheless, Malamud teaches displaying a tooltip in

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response to a user positioning a pointer over a graphical object, wherein the tooltip displays alphanumeric information associated with the object (for example, see column 1, lines 34-49; and column 3, lines 26-47). It would have therefore been obvious to one of ordinary skill in the art, having the teachings of ScanAlyze and Malamud before him at the time the invention was made, to modify the user interface of ScanAlyze to include the tooltips of Malamud, so that in response to positioning a cursor over a feature, alphanumeric data associated with that feature is displayed in a tooltip. It would have been advantageous to one of ordinary skill to utilize this combination because such tooltips may reduce confusion and the burden of the user when viewing data associated with a feature, as is taught by Malamud (for example, see column 1, lines 15-43).

Claims 19-23 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over the ScanAlyze application, as described above, and also over the "Dapple" application, as described by the article entitled, "Dapple: Improved Techniques for Finding Spots on DNA Microarrays," which is attributed to Buhler et al. (and hereafter referred to as "Buhler"). As described above, ScanAlyze involves displaying distinct graphical objects superimposed over features of a molecular array. The characteristics in which the distinct graphical objects are superimposed are selected by the user (see page 19), and are related to the validity of the background, the validity of the feature, and the location of the feature (see page 25). Such graphical objects thus may be used to indicate: a statistically valid feature; a statistically invalid feature; a statistically valid feature background; a statistically invalid feature background; an outlier feature due to non-uniformity of pixel intensities within the feature, due to statistical variance in signal

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intensity from other features, or due to both non-uniformity of pixel intensities and statistical variance in signal intensities; and outlier feature background due to non-uniformity of pixel intensity with the background, due to statistical variation of the background region from the background regions surrounding other features of the array, or due to both non-uniformity of pixel intensities and statistical various of the background region; or a position of a center of a feature found by analyzing pixel intensities within and near the feature or by row and column indices and a refined feature grid determined from locations of strong features identified. ScanAlyze, however, does not involve using distinct types of indications, distinct from the others in terms of shape or color, to indicate such characteristics. Like ScanAlyze, Dapple is an application used for displaying and analyzing molecular arrays (see the "Introduction" on page 1). Dapple particularly teaches marking spots using a plurality of distinct graphical objects, to indicate valid features, invalid features, and "intermediate" quality features (see 3.3 on page 5), and is therefore understood to involve distinct types of indications, distinct from the others in terms of shape or color, to indicate such characteristics. Accordingly it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the ScanAlyze application by using different types of indications to indicate valid features, valid feature backgrounds, invalid features, invalid feature backgrounds, and positions of features, as taught by Dapple. One would have been motivated to create such a combination because such different types of indications aid the user in analyzing a molecular array, as is demonstrated by Dapple. As such indications are arbitrary, these indications may comprise figures like recited in claims 20 and 21, and have colors like expressed in claims 22 and 23.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

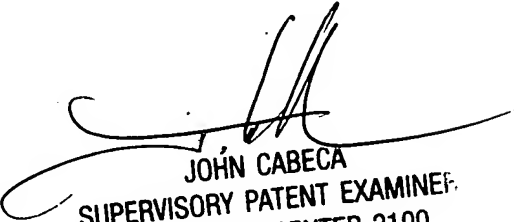
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Blaine Basom whose telephone number is (571) 272-4044. The examiner can normally be reached on Monday through Friday, from 8:30 am to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cabeca can be reached on (571) 272-4048. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

btb



JOHN CABECA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100